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ABSTRACT

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Notes on One Model for Inter-institutional Collaboration in Institutional Research

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Kenneth M. Wilson

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For Interinstitutional Cooperation in Institutional Research

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CRC No. 73-05-17	Some Notes on One Model for Inter-Institutional Collaboration in Institutional Research (CRC Memorandum, 17 May 1973)

This paper briefly describes one model for inter-institutional cooperation in a continuing program of institutional research activities involving planned patterns of data collection and analysis (surveys, tests, follow-up data on student progress, etc.).

Some of the advantages of continuing collaboration by several colleges with a central resource and service agency are identified, as well as some of the problems involved.

Notes on One Model for Inter-institutional Collaboration in Institutional Research*

by

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College Research Center at ETS

In 1971, about 45 percent of public and private institutions of higher education had an estimated FTE enrolment under 1,000 students. Among four-year private colleges only, approximately 54 percent enrolled fewer than 1,000 students and 80 percent enroled fewer than 2,500. (Astin and Lee, The Invisible Colleges, NY: McGraw-Hill Company, 1972)

By rough count, slightly more than 500 public and private institutions, including multiple campuses when listed, are represented in the AIR membership (1972-73 Directory). Of private institutions listed in the Directory, some 35 enrolled fewer than 1,000 students, circa 1971, and 50 enroled between 1,000 and 2,000 (not FTE).

Thus, private colleges enrolling less than 2,000 students account for only about 17 percent of the total institutional representation in AIR and private colleges enrolling less than 1,000 students account for only 7 percent of the total institutional representation.

Official recognition of an institutional research function has been more characteristic of larger, complexly organized institutions than of smaller ones. Both internal and external demands for management and planning information have been conducive to development of formally organized institutional research offices in complex institutions, especially in the public sector.

Of course, the underrepresentation of smaller private colleges in AIR does not necessarily mean that such colleges do not have systematic programs for institutional analysis and planning. However, there is every reason to believe that relatively few small, private colleges have allocated responsibility, time, and money for an ongoing process of institutional analysis--necessary conditions for the existence of an institutional research function on any campus.

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*Presented at The Association for Institutional Research, National Forum, Vancouver, BC, May 17, 1973.

And it goes without saying that such institutions have a very real need for reliable, up-to-date, and interpretable data on many important aspects of institutional functioning.

The Center Model

College Research Center (CRC) represents one model through which several colleges may work together to meet certain of their institutional research needs. The Center model embodies the idea of continuing participation by several colleges in a jointly planned and centrally coordinated program of activities. The long-term goal of joint support by a central staff and facility to serve all the participating colleges has been part of the Center model--this is essentially the idea of a single institutional research office extending its services to all participating colleges, with core support being provided by those colleges.

Informally organized in 1960-61 and formally chartered in 1968, CRC has been supported by participating liberal arts colleges, the College Entrance Examination Board, and more recently by Educational Testing Service with which the Center became affiliated in 1970.

CRC's program has been based on the proposition that institutional-educational evaluation, self-study, and research should be perceived as continuing processes and implemented accordingly.

This is contrary to traditional practice in most academic settings. It may be argued that many higher institutions have not sensed the potential contribution of systematic institutional research and that they have not realized maximum benefit from some of their organized research effort precisely because of the traditional tendency to conceptualize and implement "research and evaluation" primarily as a set of discrete problem-solving "projects." The typical approach to the analysis of institutional and educational questions has tended to be strictly ad hoc. The impact of individual studies frequently has been attenuated because the studies have not been undertaken as part of a recognized program of institutional analysis. As a consequence, the "research effort" in many instances has been perceived as something which involves intermittent, "externally" induced, and essentially unrelated expenditures of time and energy.

It is fair to say that institutional analysis has been characterized by lack of programmatic structure and continuity, and by lack of important inter-institutional normative perspective.

Conceptually at any rate, CRC's program has been based on the assumption that colleges are dynamic institutions, with changing clienteles, inputs, outputs, educational arrangements, resources, needs, and objectives; that as such they need current answers to many recurring questions; that in order to be adequately informed about their current status on important institutional variables (e.g., applications, sex ratios, enrolments, costs, attrition, student educational preferences) relative to their own past status and the current and past status of other institutions, colleges need to adopt procedures which will generate information about institutional operations in a common set of terms. And of course a given college must have access to information about relevant groups of colleges in order to determine its status on the variables in question.

Such a state of affairs CRC assumes can be realized through a centrally coordinated program in which colleges develop cooperatively, and help support, a programmatic pattern of data collection, surveys, tests, and evaluation procedures with

a) sufficient commonality to assure comparability of data from college to college,

b) sufficient flexibility to enable each college to treat its problems in a unique way, and

c) sufficient continuity to provide critically important time perspective for the assessment of trends in basic institutional variables and their interrelationships.

The Center model assumes that at least the following two interrelated lines of endeavor can be developed and sustained:

1) efforts by each institution to identify basic institutional problems and needs, to explore ways in which to utilize <u>existing personnel and fiscal resources</u> for implementing the function of inquiry on campus, and to interact with the central staff.

2) efforts at the Center level to maintain and encourage a program of activities which will contribute to local programs and facilitate local efforts to establish institutional research on a pragmatic basis, largely within the framework of existing resources.

The objectives and the assumptions outlined above have helped to shape CRC's program. On the positive side, the Center arrangement has made possible a program of studies on matters having clear theoretical relevance for academic institutions. This program of studies has been made possible through planned patterns of data collection, use by participating colleges of standard survey procedures with incoming freshmen and seniors, collection of comparable follow-up data on students, and the coordination and collation of all data in a central data pool.

Pooling of data on a regular basis has made it possible for a minimally staffed Center to conduct a wide range of studies and analyses with minimum duplication of effort at relatively low costs. Valuable inter-institutional perspective has been provided for many of the problems studied, and the continuity of the program has provided a basis for trend analysis in such areas as student academic abilities, nonacademic characteristics, attrition rates, grading standards, senior-level achievement relative to characteristics at entrance, patterns of curricular perference, studies of over- and underachievement, and other educationally relevant topics.

Thus, certain of the benefits theoretically associated with inter-institutional cooperation in planning and carrying out common, recurring patterns of institutional research activities through the medium of a central coordinating and service mechanism have been at least partially validated by the Center's experience. Among these benefits to colleges are the following:

a) shared use and shared costs of scarce professional personnel in the institutional research area,

b) shared costs of programming for data processing and reporting, assuming the ability to identify recurring information and study requirements which are relevant for all participating (if not all) colleges--i.e., assuming the identification of variables on which data are to be collected regularly or periodically and the types of analyses which should be made,

c) participation in centrally designed and coordinated research projects on problems of mutual interest,

d) enlargement of the scope of research and increased generalizability of research findings, through inter-institutional designs and replication, and

e) systematic description and analysis of institutional input-output variables, based on continuing inter-institutional programs embodying standard data-definitions which permit normative comparisons of descriptive statistics and make possible trend analysis.

On the other side of the coin, certain aspects of the CRC rationale have proved to be more difficult to implement directly, particularly those concerned (a) with promoting local, institutional organization for institutional research, and (b) with relating the programs of analysis made possible by the cooperative arrangement to specific institutional programs and practices. These critically important aspects of the Center model have posed more complex problems than those involved in the development of a program of analytic studies, and implementation has been impeded by a variety of factors--e.g., limitations in staffing at the Center level; absence of clearly delineated roles and responsibilities as between participating institutions and the Center; intrinsic problems involved in establishing on each campus administratively and conceptually meaningful arrangements for coordinating local institutional-research related activities, and for interacting regularly with the Center; relatively late development of "functional" formats for communicating research findings to faculty members. Moreover, as is typically the case with autonomous institutions in a cooperative arrangement, each college has adopted its own strategy with respect to utilization of its relationship with the Center.

Limitations in staff and resources have militated against the type of developmental interaction which would be required to open up truly functional channels of communication and consultation regarding the ramifications of the continuing research program for specific institutional policy, planning, or practice. Generally speaking, CRC's experience to date is consistent with the proposition that a central research resource serving colleges can only supplement, complement, and reinforce institutional effort to establish the function of inquiry on sound conceptual, organizational, and fiscal bases.

Each college must become involved in the process of identifying basic institutional information requirements and in exploring ways in which to organize and use available resources. Without assuming professional institutional research identification for the office, individual(s), or group(s) involved in local organization for institutional research, those responsible for giving form and

structure to an IR function must be in a position to identify and communicate effectively about overall institutional needs for information, study, and analysis, as well as to disseminate, rationalize, and assess the implications for policy and practice of the results of inquiry --i.e., of available "information."

Data and the results of inquiry must be channeled into existing lines of communication on a campus and must be perceived as directly relevant by one or more functional areas. The specific organizational form for cultivating an IR process will necessarily vary somewhat from campus to campus, but there must be on every campus some allocation of time, responsibility, and resources for such cultivation.

These are necessary conditions for the development of an effective institutional research program without regard to the participation of colleges in a cooperative program. A central staff serving several colleges as suggested earlier can only contribute to the process of institutional inquiry--it cannot initiate or sustain it.

On the other hand, the idea of joint institutional support for a central staff and facility--a single office to serve all participating colleges--may prove to be applicable in some situations but not in others. At the same time, some mechanism must be found for planning and carrying out <u>any</u> inter-institutional program. Consideration might be given, for example, to one or more of the following possibilities:

a) groups of smaller colleges now in consortial arrangements with emphases other than institutional research should explore the feasibility of adding planned institutional research activities to the repertory of consortium concerns;

b) small private colleges in a state could examine the feasibility of organizing to plan and carry out certain types of institutional research activities on a regular basis; to share the costs of these activities and delegate responsibilty for various segments of their multi-institutional effort to administrators or faculty members having appropriate interests and skills;

c) continuing multi-institutional research and evaluation programs should be of particular interest both to graduate departments of higher education concerned with the preparation of personnel for IR positions and to state-wide coordinating agencies concerned with the introduction

of meaningful systems of educational and institutional evaluation; the possibility of a collaborative role for these potential mechanisms for multi-institutional studies should be explored;

d) central data systems now available through the major admissions testing agencies (ACT and CEEB/ETS) provide a basis for generating normative data on a variety of institutional variables, and all colleges should explore fully ways in which the information potentially available through such systems can be developed to help them monitor regularly such variables as the number and quality of applicants, student background characteristics, etc.

In this panel we have examined some of the advantages and problems involved in, and some of the existing and potential mechanisms for multi-institutional approaches to institutional research and evaluation. Different approaches have been described, but I think it is fair to say that nothing in any of our presentations has been inconsistent with the following proposition:

> *Multi-institutional programs may provide a variety of interesting answers to questions which participating institutions have not joined, they may involve types of data which participating institutions are not likely to collect systematically or regularly for clearly recognized institutional purposes, and they may generate information in a form which is incompatible with existing communications systems on college campuses. If so, they inevitably will be perceived as peripheral to institutional concerns.*
>
> *A college involved in a multi-institutional program will gain benefits from such a program to the extent that the activities, data, and information generated by its participation in the multi-institutional effort are perceived by the college as resonating conceptually and operationally with--i.e., facilitating or supplementing--established, planned, or desired patterns of self-study, data requirements, and information usage.*

This proposition has clear implications for any multi-institutional research program in which a major purpose is to facilitate the development

by each participating college of continuing programs of institutional-educational research and evaluation. If these implications are properly heeded by all parties, then the participation of colleges in jointly planned and centrally coordinated programs can result in the development of useful answers to questions of mutual interest and concern.*

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*Colleges wishing to develop a continuing capability for generating reliable information about "important" institutional variables should begin by (a) identifying a set of recurring questions to which current answers will be needed and (b) setting up systematic routines, manual or machine-based, designed to assure the availability of the data required to answer those questions.

One procedure which colleges, individually and collectively, can use to identify a core of questions which might serve as a focus for institutional (and inter-institutional) data collection and analysis is suggested in the handout (attached).

ASSOCIATION FOR INSTITUTIONAL RESEARCH

Small colleges 1973 FORUM

Some Educationally Relevant Questions: An Assessment of Their Current Status as Foci for Institutional Inquiry

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CRC at ETS

Higher institutions frequently are unable to provide factual answers to many questions which one would think of as being quite necessary for informed appraisal and evaluation of institutional performance. For example, it is doubtful that more than a handful of colleges (or universities) could readily supply answers to all the following questions:

a) What percentage of our first-time entering freshmen graduate in regular progression?

b) What percentage of our "top-quarter" entering freshmen graduate in regular progression?

c) What are the graduate study and career plans of our seniors?

d) What percentage of our full-time faculty completed their undergraduate work at this institution?

e) In regard to each of the foregoing, how does the current situation compare with that which obtained 10 years ago?

These questions can hardly be called profound. They pertain, however, to broader matters of potential interest and definite relevance on every campus. Moreover, reliable knowledge about the normal variables of academic life--e.g., retention-withdrawal, faculty and student characteristics, patterns of student academic performance and their principal correlates, plans of students--can hardly be characterized as dysfunctional in college settings.

Attached is one sample of questions which may be thought of as relevant for higher institutions. Following each question is a series of spaces in which to indicate your evaluation of the question according to the following set of criteria:

Column 1. Check in Column 1 if the question listed or some very similar question has been <u>raised</u> on your campus in recent months.

Column 2. Check in Column 2 if an <u>answer</u> to the question, <u>in some reasonably structured form</u>, is known by you to be available on campus.

Column 3. Check in Column 3 if getting an answer to the question (or class of questions it represents) is a concern or responsibility of yours in your present role.

Column 4. Check in Column 4 if the question is one which in your view should be anticipated in a plan for data collection and analysis.

Column 5. Other classification of question -

By identifying a core of questions deemed to be educationally relevant and establishing adequate programs of "social bookkeeping" colleges can begin to develop a continuing capability for generating reliable information about the "basic," everyday variables of academic life.

In arriving at the core of specific questions, colleges might well begin by discovering how much (or how little) reliable, communicable information they now possess about the characteristics of students or faculty, about patterns of student progress during the college years and the major correlates of those patterns, etc.

To this end, an overview of a large number of specific questions (of which the attached list represents only one sample) along lines suggested above might well be helpful.

Some Educationally Relevant Questions

Curriculum; distribution patterns

1. What is the distribution, by broad academic areas, of courses completed by graduating seniors in the respective fields of concentration?
2. Which majors, at graduation, show the widest distribution of work outside their own fields?
3. Do students with a relatively wide distribution-pattern differ from their narrowly concentrated colleagues in terms of performance on the Graduate Record Examinations, Advanced Test in their major field, grade average in major subjects, or other educationally-relevant ways?

Field of concentration (major field) choice

4. What was the distribution of students among major fields at graduation in June 1972?
5. What is the distribution of students among fields at point of first formal declaration of major-field choice?
6. What proportion of our "regular" students change major field between first formal declaration and graduation?
7. What are the typical patterns of "migration" among major fields?
8. What factors are associated with change of field?
9. What changes in academic performance and/or "satisfaction" with major tend to accompany shifts in field?
10. What are the characteristic patterns of academic abilities (e.g. average scores on CEEB or ACT tests) at point of college entrance for students choosing the respective major fields?

	Question has been raised	Structured answer available	Concern of your office	Should be anticipated
	1	2	3	4	5
Place a check mark in this col. if the question has been raised on your campus recently.					
Check in this col. if an answer, in some reasonably structured form, is available.					
Check in this col. if this question, or the class of questions it represents, is a concern or responsibility of your office.					
Check in this col. if the question is one which in your view should be anticipated in a plan for the collection and analysis of institutional data.					

11. What are the characteristic patterns of educational-vocational interests (and/or values, personality traits, socioeconomic-background factors, etc.), as observed at point of entry into college, for graduates in the respective fields of concentration?

Graduate study and career patterns

12. What percentage of first-time freshmen this past fall planned to pursue study beyond the baccalaureate degree?

12a. What percentage did so among entrants in 1960?

13. What percentage of seniors last June planned to pursue graduate or professional study in the year following graduation (or at some later date)?

13a. What percentage did so among seniors in 1960?

14. What percentage of graduating seniors reported plans for graduate study as freshmen?

15. What percentage of graduates go on to graduate or professional school?

16. What is the incidence of postgraduate study by undergraduate major field?

17. Do students who go directly into graduate study following the bachelor's degree differ from their classmates in terms of ACT, CEEB, ACE Psychological (or other test-scores) available at point of entry into college?

18. What is the typical pattern of graduate- or professional-school choice among graduating seniors--where do they go to school?

19. How do students plan to finance their postgraduate study?

20. What is the record of our students in regard to attainment of graduate fellowships and awards? (Woodrow Wilson, NSF, etc.)

1	2	3	4	5

1	2	3	4	5

21. What career fields are most frequently followed by our graduates?

22. What types of information do seniors need in the area of graduate-study and career-planning?

Grading systems and meaning of grades; evaluation of student achievement

23. For freshmen, what is the distribution of general grade point averages?

24. What is the percentage distribution of letter (or other) grades assigned in freshman courses, all departments?

25. Does this distribution vary from department to department?

26. Do students, in successive Classes, who exhibit a given level of academic potential and developed ability at entrance (defined operationally in terms of scores on the entrance battery, or profile) continue to earn similar grades? Similar scores on GRE Advanced Tests?

27. When departments are ranked according to average scores of majors on, say, ACT Composite (CEEB SAT-Average, or other measure of general academic ability) and according to mean grade point averages earned by senior majors what is the nature of the relationship between these two factors?

28. Has the distribution referred to in 23, above, remained relatively stable over recent years or has it changed?

29. Has the general "quality" of work done by students changed in recent years?

30. What range of procedures is employed in "arriving at" a grade for a student?

31. What is the degree of relationship between student grade-point averages for the first term (quarter, semester, etc.) and their averages for the second (or last) term of the freshman year?

1	2	3	4	5

Retention-withdrawal patterns

32. What is the relationship between freshman-year grade point average and "survival" in the college? What proportion of freshmen with GPA's placing them in the top-fourth among their classmates survive?

33. What is the retention rate (percent of students moving from entry to graduation, on schedule) for the college?

34. What percentage of "high promise" freshmen continue through graduation?

35. What percentage of "high promise" students transfer to other colleges?

35a. What percentage of all withdrawing students transfer to other colleges?

36. What percentage of the graduating class last June had transferred into the college?

37. What is the characteristic pattern of withdrawals--percent of all withdrawals occurring after one year, two years, etc.?

38. What percentage of all withdrawals are "voluntary" and what percentage are "involuntary?"

39. Are there significant differences in ability, background, or academic performance between first- and second-year withdrawals?

40. What are the educational-vocational plans of withdrawing students for the year following withdrawal?

41. What reasons do students give for "voluntary" withdrawals?

42. What is the record of accomplishment of former students who have transferred to other institutions?

Characteristics of entering students

43. What was the mean score of entering students last fall on tests of academic ability?

1	2	3	4	5

44. What is the mean secondary-school grade point average for our entering students?

45. What is the average age of our entering students?

46. How many years of education do our entering students expect to complete?

47. What reasons do entering students give for choice of college?

48. What proportion of entering freshmen come from homes in which neither the mother nor the father completed high school?

49. What is the distribution of parental-family income as reported by entering freshmen?

50. What is the distribution of "predicted grade indexes" for our entering freshmen?

Correlates of student performance

51. What is the correlation between the aptitude test used in admissions or in orientation and freshman grades?

52. What is the best estimate of first-year college grades for students with specified test scores?

53. What is the relationship between first-year grades and choice of field or major?

54. What proportion of entering students have alumnae connections?

55. Do public school graduates earn higher grades during the freshman year than graduates of private secondary schools?

56. Is the high school average a better predictor of first-year grades than an index of rank-in-class?

57. What factors differentiate students who graduate on-schedule with honors (or with high academic records) from those who withdraw voluntarily from the college?

58. What is the record, academically, of students who receive financial aid from the college (scholarship, loan, job, etc.)?

Counseling and advisement

59. What proportion of the student body receives "formal" counseling assistance during the year?

60. How does this vary by Class?

61. What are the major problems presented by these students?

62. What are the major problems of student adjustment during the freshman year as viewed by students?

63. What are the major advisement problems of the upperclass years?

Student-Faculty assessments

64. What are the major purposes of a "college education" as perceived by faculty?

65. What are the major purposes of a "college education" as perceived by students?

66. What are the major elements in "good teaching" as viewed by students?

67. What are student attitudes toward campus rules and regulations (all or any particular set of rules)?

Faculty characteristics and conditions of service

68. What are the baccalaureate origins of full-time faculty?

69. What is the sex composition of the full-time faculty?

70. What is the average duration of service (in years) of faculty by department?

1	2	3	4	5

1	2	3	4	5

71. What is the pattern of mobility of faculty who leave the college? Into what types of situations do they move?

72. What are the major problems faced by "new" faculty members with little or no teaching experience?

Normative frame of reference

How does our institution compare with other (similar) institutions in respect to the following:

73. Distribution of academic aptitude of entering students?

74. Number of graduates earning the doctorate over a designated period of years?

75. Tuition charges?

76. Retention-withdrawal patterns?

77. Student/faculty ratio?

78. Retirement provisions for faculty and administrative employees?

79. Performance of students on the Graduate Record Examinations in designated fields?

80. Proportion of students planning to pursue postgraduate study?

81. Field-of-concentration patterns--characteristic distribution of students to fields?

82. Socioeconomic background factors?

83. Proportion of students "recruited" to postgraduate study during four years--i.e., who say as entering freshmen that they do not plan to continue education beyond the A.B. (or A.A.) degree or are uncertain in this regard but who as seniors definitely intend going on to postgraduate study?

1	2	3	4	5

84. Proportion of women students who feel that women's role should not be restricted to development of "home and family?"

Public relations; institutional image

85. What do parents of our students believe to be the primary purposes of higher education? (What do they expect of the college?)